



M5 Fiber for Ballistic Protection

Overview:

M5 Fiber is a new ultra high performance fiber produced by Magellan Systems International. It has extraordinary potential for use in armor systems for personnel and vehicles, flame and thermal protection, as well as in high performance structural composites. Current production of the fiber is at the bench scale using a batch process. Magellan has plans for scale-up to Pilot Plant production levels in the U.S. in the near future.

Armor System Development:

Although the fiber mechanical properties are less than optimal under current processing conditions, ballistic impact tests of composite materials prepared from (relatively low-strength) M5 fiber were conducted by the U.S. Army Soldier and Biological Chemical Command. These systems were shown to provide performance almost as good as the best composite materials ever prepared for fragmentation protection.

Based on these results, it is estimated that fragmentation protective armor systems based on M5 will reduce the areal density of the ballistic component of these systems by approximately 40-60% over Kevlar KM2 fabric at the same level of protection.

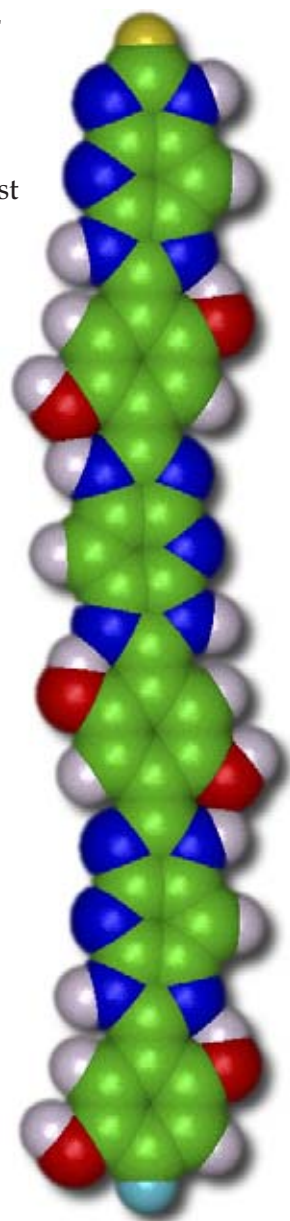
Potential Army applications of the fiber include fragmentation vests and helmets, composites for use in conjunction with ceramic materials for small arms protection and structural composites for vehicles and aircraft.

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